

=> d his

(FILE 'HOME' ENTERED AT 17:25:12 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:25:26 ON 25 AUG 2004

L1 5989692 S TTGACA/SQSN
L2 159 S L1 AND ((GLUTAMAT(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
L3 0 S L2 AND (BREVIS? OR BREVIBACTER? OR CORYNEFORM? OR CORYNEBACT? OR

=> d his

(FILE 'HOME' ENTERED AT 17:14:31 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:14:42 ON 25 AUG 2004

L1 5989692 S TTGACA/SQSN
L2 226 S L1 AND ((GLUTAMAT?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) O
L3 1 S L2 AND (BREVI? OR BREVIBACTE? OR CORYNEFORM? OR CORYNEBACT? OR

=> d his

(FILE 'HOME' ENTERED AT 17:08:02 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:08:14 ON 25 AUG 2004

L1 5843624 S TTGTCA/SQSN
L2 187 S L1 AND ((GLUTAMA?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
L3 0 S L2 AND (CORYNEFORM? OR BREVIBACTE? OR BREVI? OR GLUTAMICUM? OR

=> d his

(FILE 'HOME' ENTERED AT 16:59:34 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 16:59:45 ON 25 AUG 2004

L1 3650582 S TATAAC/SQSN
L2 102 S L1 AND ((GLUTAMA?(S)DEHYDROGEN?) OR (CITRAT?(S)SYNTHAS?) OR (
L3 0 S L2 AND (CORYNEFORM? OR CORYNEBACT? OR GLUTAMICUM? OR BREVIBAC

=> d his

(FILE 'HOME' ENTERED AT 16:46:17 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 16:46:25 ON 25 AUG 2004

L1 5964672 S TATAAT/SQSN
L2 166 S L1 AND ((GLUTAMAT?(S)DEHYDROG?) OR (CITRAT?(S)SYNTHAS?) OR (I
L3 0 S L2 AND (GLUTAMICU? OR BREVIBACT? OR CORYNEFORM? OR CORYNEBACT
L4 41 S L1 AND (GLUTAMAT?(S)DEHYDROG?)

Welcome to STN International! Enter x:x

LOGINID:ssspta1652dmr

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
SDIs in Cplus
NEWS 6 May 27 Cplus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
and WATER from CSA now available on STN(R)
NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
resulting in a closer connection to BABS
NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
with the 228th ACS National Meeting
NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
fields
NEWS 12 AUG 02 Cplus and CA patent records enhanced with European and Japan
Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
228th ACS National Meeting
NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
(Version 7.01 for Windows) now available
NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
STN Express with Discover! will change September 1, 2004

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 16:46:17 ON 25 AUG 2004

=> file registry

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 16:46:25 ON 25 AUG 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0
DICTIONARY FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> e tataat/sqsn

'SQSN' IS NOT A VALID EXPAND FIELD CODE FOR FILE 'REGISTRY'
The indicated field code is not available for EXPAND in this
file. To see a list of valid EXPAND field codes, enter HELP
SFIELDS at an arrow prompt (=>).

=> s tataat/sqsn

L1 5964672 TATAAT/SQSN

=>

=> s l1 and ((glutamat?(s)dehydrog?) or (citrat?(s)synthas?) or (isocitra?(s)dehydroge?) or
(pyruv?(s)dehydrog?) or (aconita?))

9080 GLUTAMAT?
43405 DEHYDROG?
552 GLUTAMAT?(S)DEHYDROG?
4626 CITRAT?
26289 SYNTHAS?
490 CITRAT?(S)SYNTHAS?
727 ISOCITRA?
43332 DEHYDROGE?
523 ISOCITRA?(S)DEHYDROGE?
8127 PYRUV?
43405 DEHYDROG?
733 PYRUV?(S)DEHYDROG?
2567 ACONITA?

L2 166 L1 AND ((GLUTAMAT?(S)DEHYDROG?) OR (CITRAT?(S)SYNTHAS?) OR (ISOC
ITRA?(S)DEHYDROGE?) OR (PYRUV?(S)DEHYDROG?) OR (ACONITA?))

=> s l2 and (glutamicu? or brevibact? or coryneform? or corynebact? or arthrobact?)

11900 GLUTAMICU?
520 BREVIBACT?
30 CORYNEFORM?
19308 CORYNEBACT?
726 ARTHROBACT?

L3 0 L2 AND (GLUTAMICU? OR BREVIBACT? OR CORYNEFORM? OR CORYNEBACT?
OR ARTHROBACT?)

=> s l1 and (glutamat?(s)dehydrog?)

9080 GLUTAMAT?
43405 DEHYDROG?
552 GLUTAMAT?(S)DEHYDROG?

L4 41 L1 AND (GLUTAMAT?(S)DEHYDROG?)

=> d sqide 1-4

L4 ANSWER 1 OF 41 REGISTRY COPYRIGHT 2004 ACS on STN
RN 717602-45-4 REGISTRY

CN **DNA (human clone 2887 glutamate dehydrogenase (nicotinamide adenine
dinucleotide (phosphate)) cDNA plus flanks) (9CI) (CA INDEX NAME)**

OTHER NAMES:

CN 92: PN: WO2004058153 SEQID: 93 claimed DNA

FS NUCLEIC ACID SEQUENCE

SQL 2970

NA 818 a 650 c 702 g 800 t

```
SEQ      1 tccgcttgtg gccatgtacc gctacctggg cgaagcgctg ttgctgtccc
      51 gggccggggcc cgctgccctg ggctcggcgt ccgccgactc ggccgcgttg
     101 ctgggctggg cccggggaca gccggccgcc gccccgcagc cggggctggc
     151 attggccgcc cggcgccact acagcgaggc ggtggccgac cgcgaggacg
     201 accccaactt tttcaagatg gtggagggct tcttcgatcg cggcgccagc
     251 atcgtggagg acaagctggg ggaggacctg aggaccggg agagcgagga
     301 gcagaagcgg aaccgggtgc gcggcatcct gcggatcatc aagccctgca
     351 accatgtgct gagtctctcc ttccccatcc ggcgcgacga cggctcctgg
     401 gaggtcatcg aaggctaccg ggcccagcac agccagcacc gcacgccttg
     451 caagggaggt atccgttaca gactgatgtg gagtgtagat gaagtaaaag
     501 ctttggcttc tctgatgaca tacaagtgtg cagtgggtga tgtgccgttt
     551 gggggtgcta aagctgggtg taagatcaat cccaagaact atactgataa
     601 tgaattggaa aagatcacaa ggaggttcac catggagcta gcaaaaaagg
     651 gctttatttg tcttgccatt gatgtgcctg ctccagacat gagcacaggt
     701 gagcgggaga tgtcctggat cgctgatacc tatgccagca ccatagggca
     751 ctatgatatt aatgcacacg cctgtgttac tggtaaacc atcagccaag
     801 ggggaatcca tggacgcacg tctgctactg gccgtgggtg cttccatggg
     851 attgaaaatt tcatcaatga agcttcttac atgagcattt taggaatgac
     901 accagggttt ggagataaaa catttgttgt tcagggattt ggtaatgtgg
     951 gcctacactc tatgagatat ttacatcggt ttggtgctaa atgtattgct
    1001 gttggtgagt ctgatgggag tataatggaat ccagatggta ttgacccaaa
    1051 ggaactggaa gacttcaaat tgcaacatgg gtccattctg ggcttcccca
    1101 aggcacagcc ctatgaagga agcatcttgg aggccgactg tgacatactg
    1151 atcccagctg ccagtggaga gcagttgacc aaatccaacg caccagagt
    1201 caaagccaag atcatgtctg aaggtgccaa tgggccaaac actccagaag
    1251 ctgacaagat cttctggag agaaacatta tggttattcc agatctctac
    1301 ttgaatgctg gaggagtgc agtatcttac tttgagtggc tgaagaatct
    1351 aaatcatgtc agctatggcc gtttgacctt caaatatgaa agggattcta
    1401 actaccactt gctcatgtct gttcaagaga gtttagaaag aaaatttggg
    1451 aagcatgggt gaactattcc cattgtaccc acggcagagt tccaagacag
    1501 gatatcgggt gcatctgaga aagacatcgt gcactctggc ttggcataca
    1551 caatggagcg ttctgccagg caaattatgc gcacagccat gaagtataac
    1601 ctgggattgg acctgaagac agctgectat gttaatgcca ttgagaaagt
    1651 cttcaaagtg tacaatgaag ctggtgtgac cttcacatag atggatcatg
    1701 gctgacttcc tcaactatcc cttcacatgt aacttctgca gacctatcac
    1751 aagtttacat gtaaccacag aaatcccttt ctctcctgac tcattaataa
    1801 tggataccat tctcaacaag tcaatccaag tcagcccgtt aaggagaaag
    1851 aaattaaggt tagcggatca tgtacaagct gagtgtgaaa gtagaaatca
    1901 cctacaccag agagccattt tggtatattg cctttaaata aaaagcctcc
    1951 tttatctggc tgtgcagcct tgctctgtgg cttttcccaa cacaatcagt
    2001 gctagtgtcg gggaggaaca gtcaagagca gtcagtgtct tgcttatttt
    2051 ttctggatga gtctgggaca cactgtaact ttaacacatt taagaagtag
    2101 gtgtgtggcc ttttcagaag gtggcatggt cctcaagtga gttcttagta
    2151 ttttatatca gcaaaataat tcaattttgc aggttgcaaa caaatataaa
    2201 acctgtttct gtttatgaat attattcttt tagaatagaa taagtacatg
    2251 ctgctgtaat aaaattgcct ttaatcactt aacaagccta accttgactc
    2301 aaacagtga tgcctataga aataataaat gaaaaaaact agtattttta
    2351 tatcataaaa caatgtcatt tatagcttat cattcatgta ttgtccagca
    2401 gacattaaaa gccctgtgga taattaagtt atcttcatac ctgcaaaatg
    2451 gtggaggcta ttttcattaa aactgtcaga atttgcttac tataattatg
                                     =====
    2501 atacagtcca aagaatgcag tcacttttta tcatgttaac taattgttct
    2551 cttttgaaga tctatggttg actaatataa caataattca agtagagtgt
    2601 cccagaaaaa aaccacttgg gctccctgtt tggagtctgg ctggctctga
    2651 gcattgccaa tggcccttac tcacctgact ttgtatcctc tccctttaga
    2701 ggctttgcat tctgcaccca gcttcactaa cagtgggctg aaaacatcct
    2751 tgggttgagt gtttcatttg ggagttattt ggccagggct ttttgaacag
    2801 tagtgtcccc atgaagtgtc agataatata tgtgtaagag tcagcttttt
    2851 ttttttttta actctaacac ccttcagaaa tttctaacta ctttgtaact
    2901 gcatggctta acctgggtgat aaaagcagtt attaaaagtc tacgttttcc
    2951 aaaaaaaaaa aaaaaaaaaa
```

HITS AT: 2491-2496

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

DT.CA Caplus document type: Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);
USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 2 OF 41 REGISTRY COPYRIGHT 2004 ACS on STN
RN 634622-32-5 REGISTRY
CN DNA (Enterococcus faecalis glutamate dehydrogenase gene) (9CI)
(CA INDEX NAME)

OTHER NAMES:

CN 197: PN: WO03102190 SEQID: 339 claimed DNA
FS NUCLEIC ACID SEQUENCE
SQL 1347
NA 431 a 215 c 326 g 375 t

PATENT ANNOTATIONS (PNTE):

Sequence	Patent
Source	Reference
Not Given	WO2003102190
	claimed
	SEQID 339

SEQ 1 atggacgcaa aacaatatgt taaaaatatt caagaaaaaa ttcaccaatt
51 agaccaagggt caaacagaat atttacaagc agtcgatgag tttttaccaa
101 ccgtagaagg ttttttagaa aaaaatcctc aatacattga agcaaattgt
151 ttaggtgtct tgattgaacc tgaacgtatt tttcaatttc gtgtgccgtg
201 gcaagatgac cagggcaatt ggcatgtgaa cagaggctat cgtgtccaat
=

251 ataattcagc gattggacca tacaagggtg gtttgcggtt tcatccaagt
=====

301 gtgaatttaa gtgtgatgaa gtttttgccc tttgaacaaa tttttaaaaa
351 tagtttaact ggtttgccaa tcggtggcgg caaaggcggg agtgattttg
401 atccaaaagg taagtcagat gctgaagtga tgcgcttttg tcaaagtttc
451 atgaccgaac ttcaaaaaca tatttgtcca agcacagatg ttccagcagg
501 cgatattggc ttaggcgctc gtgaaattgg ttatttggtt ggcatgtata
551 aacgcttgcg caactatgat gcaggagtgt tgactggcaa accttttagga
601 tactggggaa gccaagcaag aacagaagcg acgggttatg gaacggttta
651 ttttggttaa catttattag cagataaaaa cgatacgttt gaaggcaaaa
701 aagtcgctgt ttctggtagt gggaaatgtc caatttatgc catggaaaaa
751 gcaactgagc taggcgccac agtaatcaca tgtccgatt cgtctgggtt
801 tgtctatgat ccagaaggaa ttgatgtggc gttagtaaaa gaactaaaag
851 aaaaaaatcg tgagcgcatt tcaaaatatg ttgaaacacg taaaggcgca
901 acttattatg ataaagaatc tgtttggaat ttcgaaacag cgtatgacat
951 tgcgttacca tgtgcaacac aaaatgaaat caacgaaaag caagccgcta
1001 ttttagtgaa aaacggagtg aaagtctggg cagaaggcgc aaatatgcct
1051 tgtacactag aagcagctc cgtgttggtt aaatcagggt tgagttattg
1101 tcaggcaaaa gccgctaatt cagatggtgt tgcggtttct gcattagcga
1151 tgagccgaaa aggtgagcgt ttagcttggt cctttgaaaa agttgacggt
1201 atgctagatc aaattatgca aaacatttat gagacttgtc gtgatacagc
1251 taacgaatat caggcacgag ataactttgt tttagggtgc aatattgctg
1301 gctttgaaaa agtagcggca gcgatgctaa gtcaaggact cgtttga

HITS AT: 250-255

RELATED SEQUENCES AVAILABLE WITH SEQLINK

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);

PREP (Preparation); PRP (Properties); USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 3 OF 41 REGISTRY COPYRIGHT 2004 ACS on STN
RN 634622-30-3 REGISTRY
CN DNA (Enterococcus faecalis glutamate dehydrogenase gene) (9CI)
(CA INDEX NAME)

OTHER NAMES:

CN 228: PN: WO03102190 SEQID: 337 claimed DNA
FS NUCLEIC ACID SEQUENCE

SQL 1347
NA 433 a 217 c 320 g 377 t

PATENT ANNOTATIONS (PNTE):

Sequence	Patent
Source	Reference
Not Given	WO2003102190
	claimed
	SEQID 337

SEQ 1 atggacgcaa aacaatatgt taaaaatatt caagaaaaaa ttcaccaatt
51 agaccaaggt caaacagaat atttacaagc agtcgatgag tttttacca
101 ccgtagaagg ttttttagaa aaaaatcctc aatacattga agcaaatggt
151 ttaggtgtct tgattgaacc tgaacgtatt tttcaatttc gtgtgccgtg
201 gcaagatgac cagggcaatt ggcattgtgaa cagaggctat cgtgtccaat
=

251 ataattcagc gattggacca taaaaaggtg gtttgcggtt tcatccaagt
=====

301 gtgaatttaa gtgtgatgaa gtttttgcc tttgaacaaa tttttaaaaa
351 tagtttaact ggtttgccaa tcggtggcgg caaaggcggg agtgattttg
401 atccaaaagg taagtcagat gctgaagtga tgcgcttttg tcaaagtttc
451 atgaccgaac ttcaaaaaca tattggtcca agcacagatg ttccagcagg
501 cgatatttggc taggcgctc gtgaaattgg ttatttggtt ggcattgtata
551 aacgcttgcg caactatgat gcaggagtgt tgactggcaa accttttagga
601 tactggggaa gccaaagcaag aacagaagcg acgggttatg gaacgggtta
651 ttttggttaa catttattag cagataaaaa cgatacgttt gaaggcaaaa
701 aagtcgctgt ttctggtagt gggaatgtcg caatttatgc catggaaaaa
751 gcaactgagc taggcgccac agtaatcaca tgttccgatt cgtctgggtt
801 tgtctatgat ccagaaggaa ttgatgtggc gttagtataa gaactaaaag
851 aaaaaaatcg tgagcgcat tcaaaatatg ttgaaacacg taaaggcgca
901 acttattatg ataaagaatc tgtttggaat ttcgaaacag cgtatgacat
951 tgcgttacca tgtgcaacac aaaatgaaat caacgaaaag caagccgcta
1001 ttttagtgaa aaacggagtg aaagtcgtgg cagaaggcgc aaatatgcct
1051 tgtacactag aagcagtcgc cgtttttgc aaatcagctg taattttattg
1101 tccaggcaaa gccgctaatt caggtgggtg tgcggtttct gcattagaga
1151 tgagccaaaa tgctgaacgt ttagcttggt cctttgaaaa agttgacggg
1201 atgctagatc aaattatgca aaacatttat gagacttgct gtgatacagc
1251 taacgaatat caggcacgag ataactttgt tttaggtgcg aatattgctg
1301 gctttgaaaa agtagcggca gcgatgctaa gtcaaggact cgtttga

HITS AT: 250-255

RELATED SEQUENCES AVAILABLE WITH SEQLINK

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);

PREP (Preparation); PRP (Properties); USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 4 OF 41 REGISTRY COPYRIGHT 2004 ACS on STN

RN 546058-03-1 REGISTRY

CN DNA (Spironucleus barkhanus strain ATCC50380 gene gdh glutamate
(nicotinamide adenine dinucleotide (phosphate) dehydrogenase N-terminal
fragment-specifying cDNA plus 3'-flank) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN GenBank AF533884

FS NUCLEIC ACID SEQUENCE

SQL 1399

NA 418 a 321 c 329 g 331 t

SEQ 1 ggcacgaggc aagatttaaa gaatgtactt taatagagag atgctcacia
51 cattgaattc tgccaagctg taaacgaggt aattgactcc ttaacagttg
101 tgtttgaaga aaatccaaaa tacatatctg tatttgaaca attattagaa
151 ccagaacgcg ttataatggt tagagtacct tggactgatg ataaaggaga
=====

201 agttaatatt aacagaggtt atagagttaa atataactct gctttgggcc

```

251 cctacaaagg tggactacgt ttccaccctt cagtcaacat ctctgtgtctc
301 aagttcctgg gtttcgaaca gattctcaaa aactccctca caacccttcc
351 aatgggaggc ggtaaaggcg gtagcgactt tgatcctaag ggtaaattcca
401 acgggtgaagt tatgcgtttc tgtcagtcct tcatgaccga gctcagcagg
451 cacattggtc agttcactga cgttccagct ggcgacatcg gtgtcgggtgg
501 cagagagatc ggctacatgt ttggtcagta caagagaatc cagaaccagt
551 ttacaggaat tttgaccgga aaggcataca gttggggcgg ttcgcttatc
601 agaccagaag ctactgggta cggggcagtc tattacctta acgagatgat
651 gctcgacaac ggagacgata tcaaaggcaa gagagttctc ctctccggag
701 ctggcaatgt tgcgcagttc gcaacagaga agcttctcca ttacggtgct
751 atcccgcctt ctctctccga ctccaacggt accattatcg aacctaacgg
801 ctttactgcg gagcagctca agatgggtcat ggacctcaag aacattaaga
851 gaggcagact ctccgagtac acctccatgt cctccaccgc caagtactat
901 gaaggccagc gcccatgggc cgtatacgaa gggaaagtgg acgtcatcat
951 gccttgcgct acccagaacg aggtcaacg caccgaagcc gagagagtca
1001 tcaagcttgg gctcaggtat gtttccgaag gcgccaacat gccatccaat
1051 gacgacgcta tccacgcata ccaactccagc aaggttttct acggccctgc
1101 taaggcatca aacgcccggc gtgtcgctac atcaggtctc gagatgactc
1151 aaaactccaa caggcttcag tggtcggccg agaaggttga tgctgagtta
1201 cacgcatta tgaagaagat cttttaacag tgcaagcaga ccgcggaaaa
1251 gtacaacaaa aagggcaact accagtttgg tgccaacggt gctggattcc
1301 ttaaggttgc agatagcatg attgattaag gatgctctg atttgtaaaa
1351 attaatatga attctttcca gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa

```

HITS AT: 162-167

MF Unspecified

CI MAN

SR GenBank

LC STN Files: CA, CAPLUS, GENBANK

DT.CA Caplus document type: Journal

RL.NP Roles from non-patents: BIOL (Biological study); PRP (Properties)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s tataac/sqsn

SYSTEM LIMITS EXCEEDED - SEARCH ENDED

The search profile you entered was too complex or gave too many answers. Simplify or subdivide the query and try again. If you have exceeded the answer limit, enter DELETE HISTORY at an arrow prompt (=) to remove all previous answers sets and begin at L1. Use the SAVE command to store any important profiles or answer sets before using DELETE HISTORY.

=> d his

(FILE 'HOME' ENTERED AT 16:46:17 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 16:46:25 ON 25 AUG 2004

L1 5964672 S TATAAT/SQSN

L2 166 S L1 AND ((GLUTAMAT?(S)DEHYDROG?) OR (CITRAT?(S)SYNTHAS?) OR (I

L3 0 S L2 AND (GLUTAMICU? OR BREVIBACT? OR CORYNEFORM? OR CORYNEBACT

L4 41 S L1 AND (GLUTAMAT?(S)DEHYDROG?)

=> log

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

129.88

130.09

STN INTERNATIONAL LOGOFF AT 16:59:08 ON 25 AUG 2004

Welcome to STN International! Enter x:x

LOGINID:sssp1652dmr

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
SDIs in Caplus
NEWS 6 May 27 Caplus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
and WATER from CSA now available on STN(R)
NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
resulting in a closer connection to BABS
NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
with the 228th ACS National Meeting
NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
fields
NEWS 12 AUG 02 Caplus and CA patent records enhanced with European and Japan
Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
228th ACS National Meeting
NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
(Version 7.01 for Windows) now available
NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
STN Express with Discover! will change September 1, 2004

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 16:59:34 ON 25 AUG 2004

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 16:59:45 ON 25 AUG 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0
DICTIONARY FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> s tataac/sqsn
L1 3650582 TATAAC/SQSN

=> s l1 and ((glutama?(s)dehydrogen?) or (citrat?(s)synthas?) or (isocitra?(s)dehydrogenas?)
or (aconita?) or (pyruv?(s)dehydrogenas?))

12809 GLUTAMA?
43321 DEHYDROGEN?
552 GLUTAMA?(S)DEHYDROGEN?
4626 CITRAT?
26289 SYNTHAS?
490 CITRAT?(S)SYNTHAS?
727 ISOCITRA?
43291 DEHYDROGENAS?
522 ISOCITRA?(S)DEHYDROGENAS?
2567 ACONITA?
8127 PYRUV?
43291 DEHYDROGENAS?
733 PYRUV?(S)DEHYDROGENAS?

L2 102 L1 AND ((GLUTAMA?(S)DEHYDROGEN?) OR (CITRAT?(S)SYNTHAS?) OR
(ISOCITRA?(S)DEHYDROGENAS?) OR (ACONITA?) OR (PYRUV?(S)DEHYDROGE
NAS?))

=> s l2 and (coryneform? or corynebact? or glutamicum? or brevibact? or brevi? or
arthrobact?)

30 CORYNEFORM?
19308 CORYNEBACT?
11896 GLUTAMICUM?
520 BREVIBACT?
2666 BREVI?
726 ARTHROBACT?

L3 0 L2 AND (CORYNEFORM? OR CORYNEBACT? OR GLUTAMICUM? OR BREVIBACT?
OR BREVI? OR ARTHROBACT?)

=> d sqide 1-4 l2

L2 ANSWER 1 OF 102 REGISTRY COPYRIGHT 2004 ACS on STN
RN 717602-45-4 REGISTRY
CN DNA (human clone 2887 glutamate dehydrogenase (nicotinamide adenine
dinucleotide (phosphate)) cDNA plus flanks) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 92: PN: WO2004058153 SEQID: 93 claimed DNA

FS NUCLEIC ACID SEQUENCE

SQL 2970

NA 818 a 650 c 702 g 800 t

SEQ 1 tccgcttggtg gccatgtacc gctacctggg cgaagcgctg ttgctgtccc
51 gggccggggcc cgctgccctg ggctcggcgt ccgccgactc ggccgcgttg
101 ctgggctggg cccggggaca gcccgccgcc gcccgcgagc cggggctggc
151 attggccgcc cggcgccact acagcgaggc ggtggccgac cgcgaggacg
201 accccaactt tttcaagatg gtggagggct tcttcgatcg cggcgccagc
251 atcgtggagg acaagctggt ggaggacctg aggaccggg agagcgagga
301 gcagaagcgg aaccgggtgc gcggcatcct gcggatcatc aagccctgca
351 accatgtgct gagtctctcc ttcccatcc ggcgcgacga cggctcctgg
401 gaggtcatcg aaggctaccg ggcccagcac agccagcacc gcacgccctg

```

451 caagggaggt atccgttaca gactgatgt gagttagat gaagtaaaag
501 ctttggtctt tctgatgaca tacaagtgt cagtgggtga tgtgccgttt
551 gggggtgcta aagctgggtg taagatcaat cccaagaact atactgataa
601 tgaattggaa aagatcacaa ggaggttcac catggagcta gcaaaaaagg
651 gctttattgg tcctggcatt gatgtgcctg ctccagacat gagcacaggt
701 gagcgggaga tgtcctggat cgctgatacc tatgccagca ccatagggca
751 ctatgatatt aatgcacacg cctgtgttac tggtaaacc atcagccaag
801 ggggaatcca tggagcgcac tctgctactg gccgtggtgt cttccatggg
851 attgaaaatt tcatcaatga agcttcttac atgagcattt taggaatgac
901 accagggttt ggagataaaa catttggtgt tcagggattt ggtaatgtgg
951 gcctacactc tatgagatat ttacatcggt ttggtgctaa atgtattgct
1001 gttggtgagt ctgatgggag tatatggaat ccagatggta ttgacccaaa
1051 ggaactggaa gacttcaa attgcaacatgg gtccattctg ggcttcccca
1101 aggcaaagcc ctatgaagga agcatcttgg aggcgcactg tgacatactg
1151 atcccagctg ccagtgagaa gcagttgacc aaatccaacg caccagagt
1201 caaagccaag atcattgctg aagggtgcaa tgggccaaca actccagaag
1251 ctgacaagat cttcctggag agaaacatta tggttattcc agatctctac
1301 ttgaatgctg gagagtgac agtatcttac tttgagtggc tgaagaatct
1351 aaatcatgtc agctatggcc gtttgacctt caaatatgaa agggattcta
1401 actaccactt gctcatgtct gtccaagaga gtttagaaag aaaatttggg
1451 aagcatgggt gaactattcc cattgtaccc acggcagagt tccaagacag
1501 gatatcgggt gcatctgaga aagacatcgt gcactctggc ttggcataca
1551 caatggagcg ttctgccagg caaattatgc gcacagccat gaagtataac

```

=====

```

1601 ctgggattgg acctgagaac agctgcctat gttaatgcca ttgagaaagt
1651 cttcaaagtg tacaatgaag ctggtgtgac cttcacatag atggatcatg
1701 gctgacttcc tcaatcctt cttcacatgt aacttctgca gacctatcac
1751 aagtttacat gtaaccacag aaatcccttt ctctcctgac tcatataata
1801 tggataccat tctcaacaag tcaatccaag tcagcccgtt aaggagaaag
1851 aaattaaagg tagcggtatca tgtacaagct gagtgtgaaa gtgaaatca
1901 cctacaccag agagccattt tggatttttg cttttaataa aaaagcctcc
1951 tttatctggc tgtgcagcct tgctctgtgg cttttcccaa cacaatcagt
2001 gctagtgtcg gggaggaaca gtcaagagca gtcagttgct tgcttatttt
2051 ttctggatga gtctgggaca cactgtaact ttaacacatt taagaagtag
2101 gtgtgtggcc ttttcagaag gtggcatggc ootcaagtga gttcttagta
2151 ttttatatca gcaaaataat tcaattttgc aggttgcaaa caaatataaa
2201 acctgtttct gtttatgaat attattcttt tagaatagaa taagtacatg
2251 ctgctgtaat aaaattgcct ttaatcactt aacaagccta accttgactc
2301 aaacagtga tgcctataga aataataaat gaaaaaaact agtattttta
2351 tatcataaaa caatgtcatt tatagcttat cattcatgta ttgtccagca
2401 gacattaaaa gccctgtgga taattaagtt atcttcatac ctgcaaaatg
2451 gtggaggcta ttttcattaa aactgtcaga atttgcttac tataattatg
2501 atacagtcca aagaatgcag tcaactttta tcatgttaac taattgttct
2551 cttttgaaga tctatgggtg actaattaaa caataattca agtagagtgt
2601 cccagaaaaa aaccatctgg gctccctgtt tggagtctgg ctggctctga
2651 gcattgccaa tggcccctac tcacctgact ttgtatcttc tccttttaga
2701 ggctttgcat tctgcacca gcttcactaa cagtgggctg aaaacatcct
2751 tgggttgagt gtttcatttg ggagttattt ggccagggcc ttttgaacag
2801 tagtgctccc atgaagtgt agataatata tgtgtaagag tcagcttttt
2851 ttttttttta actctaacc ccttcagaaa tttctaacta ctttgtaact
2901 gcatggctta acctggtgat aaaagcagtt attaaaagtc tacgttttcc
2951 aaaaaaaaaa aaaaaaaaaa

```

HITS AT: 1595-1600

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

DT.CA Caplus document type: Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);
USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 2 OF 102 REGISTRY COPYRIGHT 2004 ACS on STN

RN 672550-50-4 REGISTRY

CN **DNA (human brain clone pBS-2871b06 8.8-kilodalton aconitase hydratase
sequence homolog cDNA plus flanks) (9CI) (CA INDEX NAME)**

OTHER NAMES:

CN 1: PN: CN1386856 SEQID: 1 claimed DNA

FS NUCLEIC ACID SEQUENCE

SQL 2729

Welcome to STN International! Enter x:x

LOGINID:ssspta1652dmr

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
SDIs in Caplus
NEWS 6 May 27 Caplus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
and WATER from CSA now available on STN(R)
NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
resulting in a closer connection to BABS
NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
with the 228th ACS National Meeting
NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
fields
NEWS 12 AUG 02 Caplus and CA patent records enhanced with European and Japan
Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
228th ACS National Meeting
NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
(Version 7.01 for Windows) now available
NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
STN Express with Discover! will change September 1, 2004

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 17:25:12 ON 25 AUG 2004

=> file registry

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 17:25:26 ON 25 AUG 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0
DICTIONARY FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

```
=> s ttgaca/sqsn
L1      5989692 TTGACA/SQSN
```

```
=> s l1 and ((glutamat(s)dehydrogenas?) or (citrat?(s)synthas?) or
(isocitra?(s)dehydrogenas?) or (pyruvat?(s)dehydrogen?) or aconitas?))
UNMATCHED RIGHT PARENTHESIS 'ACONITAS?))'
```

The number of right parentheses in a query must be equal to the
number of left parentheses.

```
=> s l1 and ((glutamat(s)dehydrogenas?) or (citrat?(s)synthas?) or
(isocitra?(s)dehydrogenas?) or (pyruvat?(s)dehydrogen?) or aconitas?)
      2 GLUTAMAT
      43291 DEHYDROGENAS?
      0 GLUTAMAT(S)DEHYDROGENAS?
      4626 CITRAT?
      26289 SYNTHAS?
      490 CITRAT?(S)SYNTHAS?
      727 ISOCITRA?
      43291 DEHYDROGENAS?
      522 ISOCITRA?(S)DEHYDROGENAS?
      4990 PYRUVAT?
      43321 DEHYDROGEN?
      730 PYRUVAT?(S)DEHYDROGEN?
      86 ACONITAS?
L2      159 L1 AND ((GLUTAMAT(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
      (ISOCITRA?(S)DEHYDROGENAS?) OR (PYRUVAT?(S)DEHYDROGEN?) OR ACONI
      TAS?)
```

```
=> s l2 and (brevis? or brevibacter? or coryneform? or corynebact? or glutamicum? or
anthrobact?)
```

```
      393 BREVIS?
      520 BREVIBACTER?
      30 CORYNEFORM?
      19308 CORYNEBACT?
      11896 GLUTAMICUM?
      1 ANTHROBACT?
L3      0 L2 AND (BREVIS? OR BREVIBACTER? OR CORYNEFORM? OR CORYNEBACT?
      OR GLUTAMICUM? OR ANTHROBACT?)
```

```
=> d his
```

(FILE 'HOME' ENTERED AT 17:25:12 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:25:26 ON 25 AUG 2004

```
L1      5989692 S TTGACA/SQSN
L2      159 S L1 AND ((GLUTAMAT(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
L3      0 S L2 AND (BREVIS? OR BREVIBACTER? OR CORYNEFORM? OR CORYNEBACT?
```

```
=> log y
```

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	97.15	97.36

STN INTERNATIONAL LOGOFF AT 17:31:34 ON 25 AUG 2004

Welcome to STN International! Enter x:x

LOGINID:sssptal652dmr

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
SDIs in Cplus
NEWS 6 May 27 Cplus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
and WATER from CSA now available on STN(R)
NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
resulting in a closer connection to BABS
NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
with the 228th ACS National Meeting
NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
fields
NEWS 12 AUG 02 Cplus and CA patent records enhanced with European and Japan
Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
228th ACS National Meeting
NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
(Version 7.01 for Windows) now available
NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
STN Express with Discover! will change September 1, 2004

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 17:14:31 ON 25 AUG 2004

=> file registry

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 17:14:42 ON 25 AUG 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0
DICTIONARY FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> s ttgaca/sqsn

L1 5989692 TTGACA/SQSN

=> s l1 and ((glutamat?(s)dehydrogenas?) or (citrat?(s)synthas?) or
(isocitra?(s)dehydrogenas?) or aconita? or (pyruvat?(s)dehydrogenas?))

9080 GLUTAMAT?
43291 DEHYDROGENAS?
552 GLUTAMAT?(S)DEHYDROGENAS?
4626 CITRAT?
26289 SYNTHAS?
490 CITRAT?(S)SYNTHAS?
727 ISOCITRA?
43291 DEHYDROGENAS?
522 ISOCITRA?(S)DEHYDROGENAS?
2567 ACONITA?
4990 PYRUVAT?
43291 DEHYDROGENAS?

L2 226 L1 AND ((GLUTAMAT?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
(ISOCITRA?(S)DEHYDROGENAS?) OR ACONITA? OR (PYRUVAT?(S)DEHYDROGE
NAS?))

=> s l2 and (brevi? or brevibacte? or coryneform? or corynebact? or glutamicu? or
anthrobact?)

2666 BREVI?
520 BREVIBACTE?
30 CORYNEFORM?
19308 CORYNEBACT?
11900 GLUTAMICU?
1 ANTHROBACT?

L3 1 L2 AND (BREVI? OR BREVIBACTE? OR CORYNEFORM? OR CORYNEBACT? OR
GLUTAMICU? OR ANTHROBACT?)

=> d l3 sqide

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 525627-78-5 REGISTRY

CN DNA (Corynebacterium glutamicum clone RXA04174 aconitate hydratase
sequence homolog gene plus flanks) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 157: PN: W003040681 SEQID: 153 claimed DNA

FS NUCLEIC ACID SEQUENCE

SQL 2959

NA 643 a 937 c 772 g 607 t

PATENT ANNOTATIONS (PNTE):

Sequence	Patent
Source	Reference

=====+=====

Not Given|W02003040681

claimed
SEQID 153

```

SEQ      1 ccttttccac agttctgtgg aatgagaatc cgatgttttt ctcacgccgg
    51 ctcagccgaa gcagacgccg tcgcgaaatc tcaccctaaa aaagttagaa
   101 ttggagctca ctgtgactga aagcaagaac tccttcaatg ctaagagcac
   151 ccttgaagtt ggcgacaagt cctatgacta cttcgccctc tctgcagtgc
   201 ctggcatgga gaagctgccg tactccctca aggttctcgg agagaacctt
   251 cttcgtaccg aagacggcgc aaacatcacc aacgagcaca ttgaggctat
   301 cgccaaactgg gatgcattct ccgatccaag catcgaaatc cagttcacc
   351 cagcccggtg tctcatgcag gacttcaccg gtgtcccttg tgtagttgac
   401 ctcgcaacca tgcgtgaggc agttgctgca ctcggtggcg accctaacga
   451 cgtaacacca ctgaaccag ccgagatggt cattgaccac tccgtcatcg
   501 tggaggcttt cggccgccca gatgcactgg ctaagaacgt tgagatcgag
   551 tacgagcgca acgaggagcg ttaccagttc ctgctgtggg gttccgagtc
   601 cttctccaac ttccgcgttg ttcctccagg aaccgggtatc gtccaccagg
   651 tcaacattga gtacttggct cgcgtcgtct tcgacaacga gggccttgca
   701 taccagata cctgcactgg taccgactcc cacaccacca tggaaaacgg
   751 cctgggcatc ctgggctggg gcgttggtgg cattgagggt gaagcagcaa
   801 tgctcgccca gccagtgtcc atgctgatcc ctcgcttgtg tggcttcaag
   851 ttgaccggcg agatcccagt aggcgttacc gcaactgacg ttgtgctgac
   901 catcacccga atgctgcgcg accacggcgt cgtccagaag ttcgttgagt
   951 tctacggctc cgggtttaag gctgttccac tggctaaccg tgcaaccatc
  1001 ggcaaacatgt cccagagttt cggctccacc tgtgcgatgt tcccaatcga
  1051 cgaggagacc accaagtacc tgcgcctcac cggccgccca gaagagcagg
  1101 ttgcaactgg cgaggcttac gccaaaggcg agggcatgtg gctcgacgag
  1151 gacaccggtt aagctgagta ctccgagtac ctcgagctgg acctgtccac
  1201 cgttgttctt tccatcgctg gccctaagcg cccacaggac cgcatecttc
  1251 tctccgaggg aaaggagcag ttccgtaagg atctgccaac ctacaccgac
  1301 gacgctgttt ccgtagacac ctccatccct gcaaccgcga tggttaacga
  1351 aggtggcgga cagcctgaag gcggcgctcg agctgacaac tacaacgctt
  1401 cctgggctgg ctccggcgag tccttggtca ctggcgcgaga aggacgtcct
  1451 tccaagccag tcaccgttgc atcccacag ggtggcgagt acaccatcga
  1501 ccacggcatg gttgcaattg catccatcac ctcttgacc aacacctcta
  1551 acccatccgt gatgatcggc gctggcctga tcgcacgtaa ggcagcagaa
  1601 aagggcctca agtccaagcc ttgggttaag accatctgtg caccaggttc
  1651 ccaggttgtc cagggctact accagcgcgc agacctctgg aaggaccttg
  1701 aggccatggg ctctacctc tccggcttcg gctgcaccac ctgtattggt
  1751 aactccggcc cactgccaga ggaaatctcc gctgcgatca acgagcacga
  1801 cctgaccgca accgcagttt tgtccggtaa ccgtaacttc gagggacgta
  1851 tctcccctga cgttaaagt aactacctgg catccccaat catggtcatt
  1901 gcttacgcaa tcgctggcac catggacttc gacttcgaga acgaagctct
  1951 tggacaggac caggacggca acgacgtctt cctgaaggac atctggcctt
  2001 ccaccgagga aatcgaagac accatccagc aggcaatctc ccgtgagctt
  2051 tacgaagctg actacgcaga tgtcttcaag ggtgacaagc agtggcagga
  2101 actcgatgtt cctaccggtg acaccttcga gtgggacgag aactccacct
  2151 acatccgcaa ggcaccttac ttcgacggca tgcctgtcga gccagtggca
  2201 gtcaccgaca tccagggcgc acgcgttctg gctaagctcg gcgactctgt
  2251 caccaccgac cacatctccc ctgcttcctc cattaagcca ggtacccctg
  2301 cagctcagta cttggatgag cacggtgtgg aacgccacga ctacaactcc
  2351 ctgggttcca ggcgtggtaa ccacgaggtc atgatgcgcg gcaccttcgc
  2401 caacatccgc ctccagaacc agctggttga catcgcaggt ggctacaccc

      ====
  2451 gcgacttcac ccaggagggg gctccacagg cgttcattcta cgacgcttcc
  2501 gtcaactaca aggtgctgg cattccgctg gtctcttgg gcggcaagga
  2551 gtacggcacc ggttcttccc gtgactgggc agctaagggc actaacctgc
  2601 tcggaattcg cgcagttatc accgagtctt tcgagcgtat tcaccgctcc
  2651 aacctcatcg gtatggcgct tgtcccactg cagttccctg caggcgaatc
  2701 ccacgagtcc ctgggccttg acggcacoga gaccttcgac atcaccggac
  2751 tgaccgcact caacgagggc gagactccta agactgtcaa ggtcaccgca
  2801 accaaggaga acggcgacgt cgtcgagttc gacgcagttg tccgcacgca
  2851 caccacaggt gaggtgact actaccgcca cggcggcatc ctgcagtacg
  2901 tgctgcgtca gatggctgct tcttctaagt aattagaaga cttttgatgt
  2951 ggagtttcc

```

HITS AT: 2427-2432

RELATED SEQUENCES AVAILABLE WITH SEQLINK

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PRP (Properties); USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 17:14:31 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:14:42 ON 25 AUG 2004

L1 5989692 S TTGACA/SQSN
L2 226 S L1 AND ((GLUTAMAT?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) O
L3 1 S L2 AND (BREVI? OR BREVIBACTE? OR CORYNEFORM? OR CORYNEBACT? O

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	106.01	106.22

STN INTERNATIONAL LOGOFF AT 17:24:45 ON 25 AUG 2004

Welcome to STN International! Enter x:x

LOGINID:sssptal652dmr

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
SDIs in CPlus
NEWS 6 May 27 CPlus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
and WATER from CSA now available on STN(R)
NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
resulting in a closer connection to BABS
NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
with the 228th ACS National Meeting
NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
fields
NEWS 12 AUG 02 CPlus and CA patent records enhanced with European and Japan
Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
228th ACS National Meeting
NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
(Version 7.01 for Windows) now available
NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
STN Express with Discover! will change September 1, 2004

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 17:08:02 ON 25 AUG 2004

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 17:08:14 ON 25 AUG 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0
DICTIONARY FILE UPDATES: 24 AUG 2004 HIGHEST RN 732209-96-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

```
=> s ttgtca/sqsn
L1      5843624 TTGTCA/SQSN
```

```
=> s l1 and (glutama?(s)dehydrogenas?) or (citrat?(s)synthas?) or
(isocitrat?(s)dehydrogenas?) or aconit? or (pyruvat?(s)dehydrogenas?))
UNMATCHED RIGHT PARENTHESIS 'DROGENAS?))'
```

The number of right parentheses in a query must be equal to the
number of left parentheses.

```
=> s l1 and ((glutama?(s)dehydrogenas?) or (citrat?(s)synthas?) or
(isocitrat?(s)dehydrogenas?) or aconit? or (pyruvat?(s)dehydrogenas?))
12809 GLUTAMA?
43291 DEHYDROGENAS?
552 GLUTAMA?(S)DEHYDROGENAS?
4626 CITRAT?
26289 SYNTHAS?
490 CITRAT?(S)SYNTHAS?
720 ISOCITRAT?
43291 DEHYDROGENAS?
522 ISOCITRAT?(S)DEHYDROGENAS?
2837 ACONIT?
4990 PYRUVAT?
43291 DEHYDROGENAS?
730 PYRUVAT?(S)DEHYDROGENAS?
L2      187 L1 AND ((GLUTAMA?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR
(ISOCITRAT?(S)DEHYDROGENAS?) OR ACONIT? OR (PYRUVAT?(S)DEHYDROGE
NAS?))
```

```
=> s l2 and (coryneform? or brevibacte? or brevi? or glutamicum? or corynebacte? or
arthrobact?)
```

```
30 CORYNEFORM?
520 BREVIBACTE?
2666 BREVI?
11896 GLUTAMICUM?
19306 CORYNEBACTE?
726 ARTHROBACT?
L3      0 L2 AND (CORYNEFORM? OR BREVIBACTE? OR BREVI? OR GLUTAMICUM? OR
CORYNEBACTE? OR ARTHROBACT?)
```

```
=> d sqide l2 1-3
```

```
L2      ANSWER 1 OF 187  REGISTRY  COPYRIGHT 2004 ACS on STN
RN      713253-17-9  REGISTRY
CN      DNA (Arabidopsis thaliana citrate synthase cDNA plus flanks) (9CI)
(CA INDEX NAME)
```

OTHER NAMES:

```
CN      1: PN: WO2004056968 SEQID: 1 claimed DNA
FS      NUCLEIC ACID SEQUENCE
SQL     1545
NA      393 a   331 c   395 g   426 t
```

```
SEQ     1 atggagattt cgagagagt gaaagctaga ttagccgttc tcaccgcgca
51 tttggcggtg tctgataccg tcggattgga acaggtgttg ccggcgatcg
101 cgccatggtg tacatcggct cacattaccg ctgcacctca tggatcactc
```

```

151 aaaggaaact tgacgatcgt cgatgagcgt acgggggaaga aatatcaggt
201 ccctgtctca gagcatggta ccgttaaagc cgttgatctc aagaagataa
251 cgacggggaa ggatgataag gggctgaagt tgtacgatcc tgggtacttg
301 aacacggctc cggttcgatc ttcgatttgt tacatcgacg gagatgaagg
351 aatcttacgt tatcggggat acccaattga agagttggct gagagcagta
401 cttttattga ggttgcttat ctctcatgt atggaaatct gccttctcaa
451 agtcagctag ctgattggga gttcactgtt tctcagcatt cagctgtgcc
501 acaaggagta ttggatatca tacagtccat gcctcatgat gcacacccaa
551 tgggagttct tgtgagtgcc atgagtgcac tttctatctt tcaccctgat
601 gcaaatcctg ctcttagtgg ccaagacatt tacaagtcaa aacaagttcg
651 tgataaacag attgttcgca ttctcggaaa ggcaccaaca attgcagcag
701 ctgcttattt gaggacggca ggcaggcctc ctgttcttcc ttcggccaac
751 ctttcttatt cagagaattt cctctatatg ctggattcaa tgggcaatag
801 gtcttacaag cctaactctc gtttggctcg agtgctggac atcctcttca
851 tactgcatgc tgaacatgaa atgaactgct ctactgctgc tgcctggcat
901 cttgcctcta gtggtgttga tgtgtacacc gcattgtctg gagctgttgg
951 ggcgctttat ggtccacttc atggtggcgc gaacgaggcc gtgcttaaga
1001 tgttagcaga gattgggact gctgaaaata ttccagattt cattgaaggc
1051 gtgaagaaca gaaagaggaa gatgtcaggt tttggacatc gtgtttacaa
1101 aaactatgac ccccgagcaa aagttataaa aaaactggca gatgaagtgt
1151 tctccattgt tggtagggat cctctcatcg aggtagcagt tgccttagag
1201 aaggcggcac tgtctgatga atattttgtt aagagaaagc tgtacccaaa
1251 tgttgatttc tactctggat taatctatag ggcaatggga ttcccaccag
1301 aattcttcac agtcctgttc gcagtcctgc gtatggctgg atacttgtca
=====
1351 cactggcgtg agtcgttaga tgatcctgac actaggatca tgagacccca
1401 acaggcctat actggagtgt ggatgaggca ttacgagcca gtgagagaac
1451 gaacggtatc aagtgattcg gataaggata agtttgggtca agtttccatt
1501 tcgaatgcat caagaaggcg tttagctgga tcatctgccc ttttag

```

HITS AT: 1345-1350

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 2 OF 187 REGISTRY COPYRIGHT 2004 ACS on STN

RN 713252-98-3 REGISTRY

CN DNA (Arabidopsis thaliana aconitate hydratase cDNA plus flanks)
(9CI) (CA INDEX NAME)

OTHER NAMES:

CN 1: PN: WO2004056967 SEQID: 1 claimed DNA

FS NUCLEIC ACID SEQUENCE

SQL 3214

NA 888 a 639 c 778 g 909 t

```

SEQ      1 gaatcggctc aggcctcgtgt agcctcacca actccgctta taaactttct
      51 ctcttctgaa aacagatctc tctactttgc ttcttcaactc gacttgtatc
     101 tatcatccat ggcttccgag aatcctttcc gaagcatatt gaaggcgta
     151 gagaagcctg atggtgggtga attcggtaac tactacagct tacctgcttt
     201 gaacgatccc aggatcgata aactaccta ttccattagg atacttcttg
     251 aatcggccat acgtaactgt gatgagttcc aagttaagag caaagatgtt
     301 gagaagattc ttgattggga gaatacttct cccaagcagg ttgagattcc
     351 gttcaagcct gctcgggttc ttcttcagga ctttactggg gttcctgctg
     401 ttgttgatct tgccttgcatg agagatgcc aagaataatct cgggtgggat
     451 tctaataaaa ttaatccgct ggtccctgta gatcttgtca ttgatcactc
=====
     501 cgttcaggtg gatgtggcga gatcagagaa cgcaagtgcag gcaaacatgg
     551 agcttgagtt ccagcgtaac aaggaaagat ttgcttttct taagtgggga
     601 tccaacgcct tccacaacat gcttgtcgta cctcctggat ctggaatagt
     651 tcatcaagtc aacctagaat accttgccag agttgttttc aacacaaatg
     701 gacttcttta ccagacagt gttgttggca cagactctca caccactatg
     751 attgatggac tgggtgttgc tggatgggga gttggcggtg tagaagcgga
     801 agctaccatg cttggtcagc caatgagcat ggtcctaccc ggtgttgttg
     851 gtttcaagct aacgggaaag ttaagagatg gaatgacagc tactgatttg
     901 gtcttaacag tgactcagat gttgaggaag catggagtag ttggaaagtt
     951 tggtgaattc cacggggaag ggatgagaga attgtcttta gctgaccgtg

```

1001 ctacaattgc caatatgtct cctgagtagc gtgcgaccat gggattcttc
 1051 ccagtcgacg atgtcacttt gcagtatcta aggttgacag gcaggagcga
 1101 tgacactgtc tccatgatag aggcgtatth acgagcaaac aagatgtttg
 1151 tggattacag tgagccggag agtaagacag tttattcttc atgtctggaa
 1201 ttgaatctcg aggatgtgga acctgtgtgt tctgggtcca agaggcctca
 1251 tgatcgtgtt cctttgaagg aatgaaagc ggactggcat tcttgcttgg
 1301 acaatagagt aggatcaag ggtttcgctg tacctaaaga agcacagagt
 1351 aaggctgtag agttcaatth taacgggacc acagcacagc ttagacatgg
 1401 agatgttgtt atagcagcaa tcaccagttg cacaataact tcaaacccta
 1451 gtgtaatgct tggcgtgccc ttagttgcaa aaaaggcctg cgacctagga
 1501 ctggagggtta agccatggat caaaactagt cttgctccag gctctggagt
 1551 tgtaacaaag tacttgcaa agagtggctt gcagaagtac ttgaatcagc
 1601 tcggcttcag tatcgttggg tatgggtgca ccacatgcat tggaaactcg
 1651 ggggatattc atgaagctgt ggcttcagca atagttgata atgacttggg
 1701 ggcatccgct gtgtgtgtct ggaacagaaa ttttgaggga cgtgttcacc
 1751 cgtaacaag agctaactat ctacttccc caccgcttgg ttagacctat
 1801 gctctggctg gaactgttga cattgattth gagacacagc ccattggaac
 1851 tgggaaagat ggaaacaga tttttttcag ggacatttgg ccctctaaca
 1901 aagaagttgc tgaggttgtt caatctagt tcttctctga tatgttcaa
 1951 gctacatatg aagcaatcac caaaggaaat tccatgtgga atcagttatc
 2001 tgtggcgtca ggtactctct atgagtggga cccgaaatca acttacattc
 2051 acgagccgcc ttatttcaag ggcattacca tgtctccacc cggctccatc
 2101 ggtgtgaaag acgcatactg tttactcaat tttggagaca gtattaccac
 2151 tgatcacatc tcaccagctg gtagcatcca caaggacagt cctgcggcta
 2201 agtacttgat gaaacgaggt gtggatagaa gagacttcaa ctcatacggg
 2251 agtcgccgtg gtaatgatga gattatggcg agaggcactt ttgcaaatat
 2301 ccgtattgtc aacaacact tgaaaggaga agttggtccc aaaacagtth

2351 acattcccac tggagagaag ctttctgttt tcatgtctgc catgaaatat
 2401 aggaacgagg gacgcgacac aatcattttg gctgggtgctg aatacggtag
 2451 tggagttct cgtgattggg ctgccaaggg tccaatgctt ctgggtgtga
 2501 aagctgtgat ttcaaagagc ttcgagcgaa ttcaccgaag caatttgggtg
 2551 ggaatgggaa tcatacctth gtgcttcaag gcgggagaag atgctgagac
 2601 ccttggccta acgggtcagg agctttacac cattgagctc ccaacaatg
 2651 ttagttagat caaacaggga caagatgtaa cagtcgtcac aaacaatggc
 2701 aaatctttca catgtacact ccgatttgac acagagggtg agttggctta
 2751 tttcgatcac ggagggtatt tgcaatacgt tatcaggaa ttgatcaaac
 2801 aataaattctg gtaacaccag agacttgagt tatatatccc aaggtttgtt
 2851 gcaataaaaa tgtttgcagg gaggaggacg agaattgact taatttaaac
 2901 ttttgcctth gtctcttctc gtctcttctc tctgtgtagt caattggaaa
 2951 cattatcact gtcgagtcatt ttttttctt tcaaataaac atgcgagctc
 3001 ttttttgtt gttgtgttcc ataagcattg tcaatgtctg attgatagaa

3051 gtatactcta ccattagaaa ataaacacaa atacacaaag taatctaaag
 3101 agctagagga tgaaaattat cttgtgaagg ttgtacaaaa acattaaaaa
 3151 aaatctgaga tgatccaaag gattgattat cacattcgaa gtgatgggtca
 3201 gagattacct ctth

HITS AT: 485-490, 2306-2311, 3028-3033

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 3 OF 187 REGISTRY COPYRIGHT 2004 ACS on STN

RN 686221-23-8 REGISTRY

CN DNA (Euglena gracilis strain SAG1224-5/25 gene pdh pyruvate dehydrogenase E1 .alpha. subunit cDNA plus flanks) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN GenBank AJ620469

FS NUCLEIC ACID SEQUENCE

SQL 1586

NA 328 a 454 c 501 g 303 t

SEQ 1 ttttttttgc gagcctgcct gatgaatcca ttccgtctgt tgctgcagcg
 51 ggctgggtgg gacctcatgc gccttaaaact gcaatcgacc ttcaagggtc

101 acactcctga aggcattgcca gagttcacag gtccaaatga cttcacggaa
 151 gtcacgggtgg accagatcaa gcggttccac actgatatgg tacgcatccg
 201 gcgcatggag acgaaagcga gccagatgta cactcagaag aagatccgtg
 251 gattctgcca tttgtacatt ggccaggagg cagtctgcgt tggcatggag
 301 tcatctctga cgttcaaaga cgccatcatc acagcatatc gggaccatgc
 351 ctggcatttg acccgcgcg gaaccatcac ggaggatgc gcggagatgc
 401 agggcaaggc ggcggtctgc tccaaggga aggggggttc catgcacatg
 451 tacaaggcgg caaacaactt ctacggtggc aacgggatcg tcggggcaca
 501 gtgcccgggtg ggggctggca ttgctgttgg gctggcctat gaagacccca
 551 agggcccaaa ggggggtgtgc ctctcgtgt acggggacgg ggcagccaac
 601 cagggccagc tgttcgaggc catgaacatg gcgtcgctgt ggaagcttcc
 651 ggtgatcttt gtctgcgaga acaaccagtt cgcgatgggc acctccgtga
 701 agcgtggctc cgcgcaacag gtgttttaca agcggagcga ctacatcccc
 751 gggctgtggg tggacgggat ggacgtcctg gcctgccggg aggggatgcy
 801 gtacgcaaaa gagtggtgca tggcaggga tggcccggtg tgcattggaga
 851 tgcagacgta ccggtacatg ggccattcca tgtccgacct ggggacgagc
 901 taccggacct gggacgaggt gcagaagggt aaggaggaga gggactgcat
 951 cagcaagctg agtccccggc tcatcgcgga ggggatcagc accgaggcgg
 1001 agctgaagac agtcgagaag gagactaaca aggagggtga caaggagatt
 1051 gcggcggtgg aagccctgcc tcctaccccc tttagggaga tcggccgaga
 1101 tatcttcgat gtcccatca ccgtacgcgc ctgacgacct accatcgtgt
 1151 atggacaatg aggacagggc caagccactg cgaggcacgt gcgcatggcc
 1201 ctgagggatt cctgcggcgc cgtgcgcacc agcccagtc atgaaccaac
 1251 ccccccgcc agagggtggac tgtcagacgt gatgggctgc cttcccatcc
 1301 ggtgggcgtc aaccaactgc tgcctgatgc ggctaccct cctccctct
 1351 cgacacctgt ttgtcagtgt ccctgcgtgt ggtacactgc tatgatgcc
 =====
 1401 tgctgttgc gtttcggcaa ctactgccc cggccctgt cgagaatttg
 1451 aggtccacc ccagcaccct gtggtctgct gcgggggttc cgtggcctaa
 1501 actgtggtgc tcaccctcag gacttgttga acagaattgc tctcagcca
 1551 acgcatgtc caaacgggtg acaagcgtcc gtgaca

HITS AT: 1361-1366

MF Unspecified

CI MAN

SR GenBank

LC STN Files: CA, CAPLUS, GENBANK

DT.CA Caplus document type: Journal

RL.NP Roles from non-patents: BIOL (Biological study); PRP (Properties)

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 17:08:02 ON 25 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:08:14 ON 25 AUG 2004

L1 5843624 S TTGTCA/SQSN

L2 187 S L1 AND ((GLUTAMA?(S)DEHYDROGENAS?) OR (CITRAT?(S)SYNTHAS?) OR

L3 0 S L2 AND (CORYNEFORM? OR BREVIBACTE? OR BREVI? OR GLUTAMICUM? O

=> log

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

114.91

115.12

STN INTERNATIONAL LOGOFF AT 17:14:06 ON 25 AUG 2004